

- 8 -

REMARKS/ARGUMENTS**Summary of Prosecution**

Claims 1 to 25 as originally filed in the present application correspond substantially to claims that were cancelled during prosecution of Applicant's co-pending application Serial No. 10/178,345.

In an Office Action mailed May 14, 2004, claims 1, 2 and 10 to 18 were rejected under 35 U.S.C. §102(b) in view of U.S. Patent No. 5,645,248 of Campbell ("Campbell"). Claims 3 to 6, 8, 9, 19 and 20 to 25 were rejected under 35 U.S.C. §103(a) in view of Campbell. Claims 1 to 25 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting in view of applicant's co-pending U.S. Patent Application Serial No. 10/178,345.

In Applicant's response dated September 10, 2004, a terminal disclaimer was filed. In addition, amendments were made to claims 19 and 20 and arguments were presented against the rejection of claims 1 to 6 and 8 to 25 on the grounds of anticipation and/or obviousness. Claim 22 was amended to improve clarity.

In the Final Office Action of December 15, 2004, claims 1, 2 and 10 to 18 were again rejected under 35 U.S.C. §102(b) as being anticipated by Campbell. Claims 3 to 6, 8 and 9 have been rejected under 35 U.S.C. §103(a) as being obvious in light of Campbell. Claim 1 has also been rejected under 35 U.S.C. §102(b) in light of WO 00/58152 of Ishkov (hereafter "Ishkov").

Claims 19 to 25 have been determined to be allowable and claim 7 has been declared allowable if rewritten in independent form.

The terminal disclaimer filed September 13, 2004 has been disallowed on the grounds that it was signed by an agent not of record. The Examiner has noted that the terminal disclaimer would be allowed if a power of attorney recognizing Mark D. Penner is submitted.

The Applicant submits the present response after a telephone interview conducted between the undersigned and the Examiner on February 14, 2005. The undersigned thanks the Examiner for his interest in moving the application to issue and for helpful comments made during the telephone interview. It is the understanding of the undersigned that agreement was reached during the interview regarding the subject matter as claimed in light of the prior art cited by the Examiner. It is respectfully submitted that the amendments presented herein have been made according to the undersigned's understanding of that agreement.

Anticipation Rejection

In the outstanding Final Office Action, claims 1, 2 and 10 to 18 were rejected under 35 U.S.C. §102 (b) as being anticipated by Campbell. Claim 1 has also been rejected under 35 U.S.C. §102(b) as being anticipated by Ishkov.

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Applicant's SubmissionClaim 1 and claims dependent therefrom

Claim 1 has been amended to recite that the boundary layer separation suppression element, during operation for forward conduct, lowers air pressure substantially adjacent the trailing region and shifts a point at which airflow about the outer envelope separates therefrom, away from the leading region. Support for this amendment can be found in the application as originally filed at page 12, lines 5 to 8.

After discussing the prior art and the subject matter of the claims with the Examiner during the telephone interview, the subject matter of claim 1, as presently amended, was agreed to in principle.

The Applicant has carefully considered the teachings of Campbell and Ishkov and is of the view that neither reference teaches a boundary layer separation suppression element that lowers air pressure substantially adjacent the trailing region. Furthermore, neither reference teaches a boundary layer separation suppression element that, during operation for forward conduct, shifts away from the leading region, the point at which airflow about the outer envelope separates therefrom.

During forward flight of a spherical airship, laminar airflow forms a "boundary layer" about the outer envelope of the airship. This laminar airflow extends from the leading region, about the surface of the envelope, toward the trailing region. The boundary layer separation point (BLSP) is the point at which laminar airflow is terminated due to frictional drag, and airflow separates from the outer surface of the envelope, resulting in turbulent airflow. Normally, this point is located just past the vertical centreline of the airship.

The addition of a boundary layer separation suppression element causes the boundary layer to be maintained further along the trailing region. For example, a propeller mounted on the rear of the aircraft draws air from the rear surface of the airship, causing a relative low pressure region to form substantially adjacent the trailing region of the airship. The BLSP is encouraged to move further along the trailing region and away from the leading region, causing laminar airflow to be maintained about a greater surface area of the airship. Accordingly, the propulsion source mounted at the rear of the airship acts as a boundary layer separation suppression element by shifting the point at which laminar airflow about the outer envelope is terminated, away from the leading region of the airship.

Campbell

The operation of the propeller 56 within the pathway 25 of Campbell fails to lower air pressure substantially adjacent the trailing region of the airship. In fact, the pressure adjacent the trailing region of Campbell's airship is likely higher than the ambient pressure due to operation of the propeller 56 within the pathway 25. Accordingly, laminar flow is not maintained further

- 10 -

along the trailing region and the point at which laminar airflow about the outer envelope is terminated, is not shifted away from the leading region of the airship.

The Applicant respectfully submits that Campbell's propeller does not disclose a boundary layer separation suppression element that lowers air pressure substantially adjacent the trailing region and shifts the point at which laminar airflow about the outer envelope separates therefrom, away from the leading region of the airship.

Based on the amendment made to claim 1 and the argument submitted above, Applicant respectfully requests that the rejection of claim 1 be withdrawn. Inasmuch as claims 2 and 10 to 18 depend from claim 1, the applicant requests that the rejection of these claims under 35 U.S.C. §102(b) be similarly withdrawn.

Ishkov

The blow-off system of Ishkov includes nozzles 7 arranged in concentric circles, that expel compressed air rearwardly during forward conduct. The Applicant submits that the expulsion of compressed air towards the rear of the airship does not lower air pressure adjacent the trailing region of the airship.

Accordingly, the Applicant submits that Ishkov's nozzles 7 do not function as a boundary layer separation suppression element to lower air pressure substantially adjacent the trailing region or to cause the point at which airflow about the surface of the envelope separates therefrom, to shift away from the leading region.

Based on the amendment made to claim 1 and the argument submitted above, Applicant respectfully requests that the rejection of claim 1 be withdrawn.

Obviousness Rejection

Claims 3 to 6, 8 and 9 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Campbell. In the view of the Examiner, the features recited in claims 3 to 6, 8 and 9 are either found in the cited reference, or would have been obvious to a person skilled in the relevant art.

Applicant's Submission

Claims 3 to 6, 8 and 9 all depend from amended claim 1, which includes a boundary layer separation suppression element that lowers air pressure substantially adjacent the trailing region and shifts away from the leading region, the point at which airflow about the surface of the envelope, separates therefrom. In view of the amendments made to claim 1, it is respectfully submitted that the rejections on the grounds of obviousness have been overcome and that the rejections should be withdrawn.

21371627.2

- 11 -

Other Amendments**Claim 7**

Claim 7 has been rewritten in independent form as suggested in the Final Office Action dated December 15, 2004 and in the telephone interview conducted with the undersigned on February 14, 2005.

Provisional Non-Statutory Double Patenting Rejection

A terminal disclaimer was filed with Applicant's response of September 13, 2004, but was disapproved on the grounds that the disclaimer was signed by an attorney not of record. The Examiner has kindly suggested that the filing of a Power of Attorney recognizing Mr. Mark D. Penner will be sufficient to overcome the objection to the disclaimer. As suggested, a Revocation of Power of Attorney with New Power of Attorney is enclosed with this response, together with a Statement under 37 CFR 3.73(b) executed by the Assignee. The Appointment appoints the practitioners associated with Customer Number 27871, one of whom is Mark D. Penner. It is respectfully submitted that the terminal disclaimer previously submitted on September 13, 2004 is now in condition for acceptance.

Conclusion

Applicant submits that the amendments made to claim 1 clearly places the subject matter thereof outside of the prior art. Since the accompanying arguments expand upon Applicant's previous arguments regarding the failure of the prior art to teach a boundary layer separation suppression element as described in the present application, the Applicant submits that the present response does not introduce new matters for consideration by the Examiner and respectfully requests that the Examiner consider the amendment and arguments herein.

The present response is being submitted within two months from the date of the Final Office Action, namely within two months from December 15, 2004. Accordingly, the Applicant requests that should an Advisory Action be deemed necessary, the Advisory Action be promptly issued to provide the Applicant with sufficient time to respond.

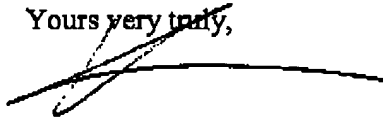
Applicant believes however, that the claim amendments and arguments made herein have placed the application in condition for allowance, as agreed during the telephone interview conducted with the undersigned on February 14, 2005. Applicant thus respectfully requests that a timely Notice of Allowance be issued in this case.

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- 12 -

Should any Patent Office Official want to telephone, the call should be made to Mark D. Penner (Registration No. 48,092) at (416) 863-4283.

Yours very truly,



Date:

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